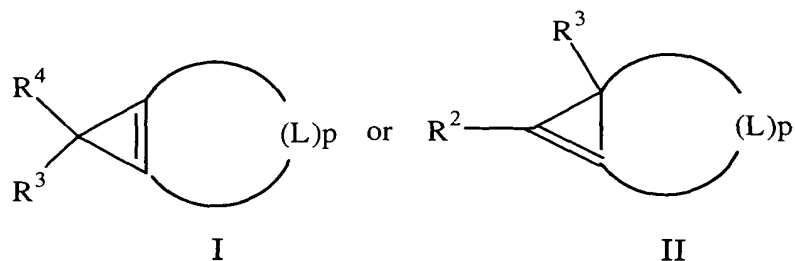


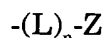
We claim:

1. A method of inhibiting an ethylene response in a plant comprising the step of contacting the plant with an effective ethylene response-inhibiting amount of a cyclopropene derivative of formula I or II:



or a mixture thereof, wherein:

- a) each  $R^2$ ,  $R^3$ , and  $R^4$  is independently a group of the formula:

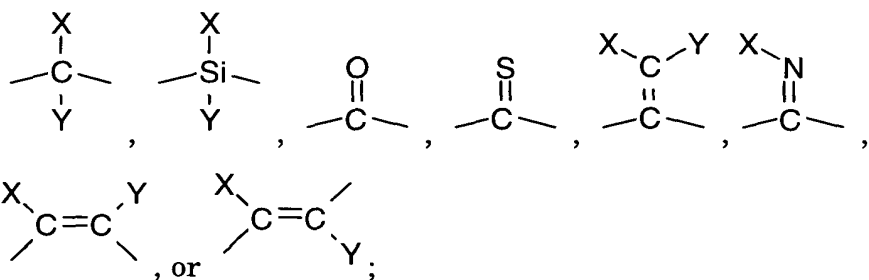


10        wherein:

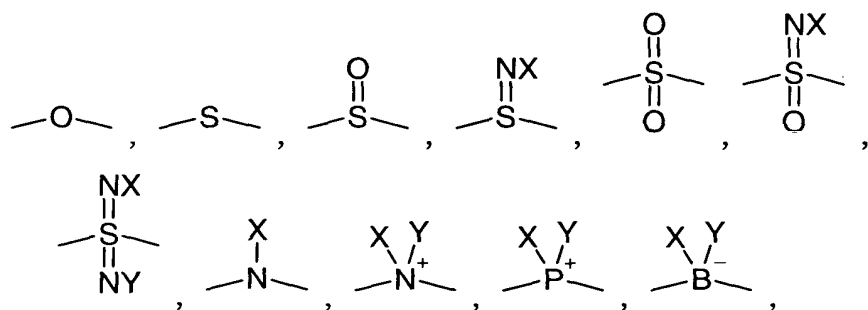
- i)  $n$  is an integer from 0 to 12 and  $p$  is an integer from 3 to 10;
- ii) each  $L$  is independently selected from a member of group D, E, or J

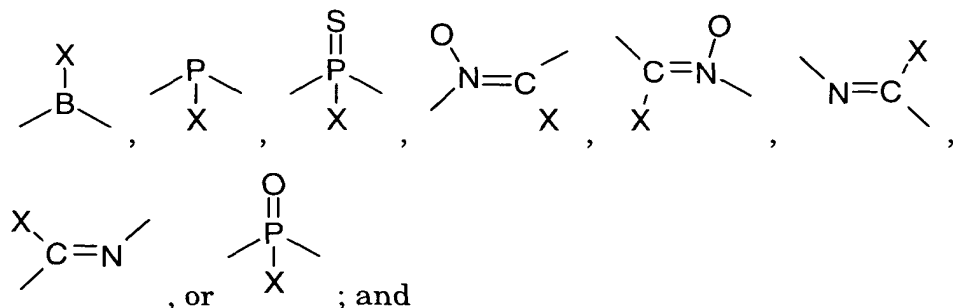
wherein:

D is of the formula:

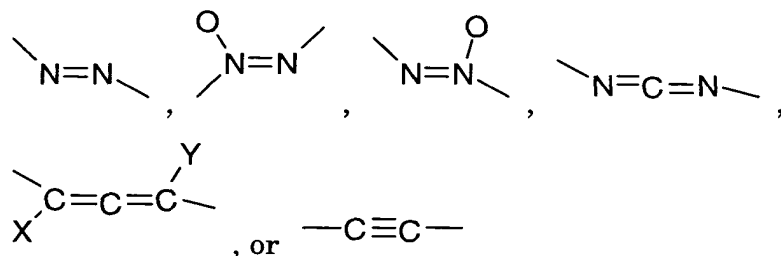


E is of the formula:





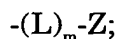
J is of the formula:



5

wherein:

A) each X and Y is independently a group of the formula:



and

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B) m is an integer from 0 to 8; and

C) no more than two E groups are adjacent to each other and no J groups are adjacent to each other;

iii) each Z is independently selected from:

15

A) hydrogen, halo, cyano, nitro, nitroso, azido, chlorate, bromate, iodate, isocyanato, isocyanido, isothiocyanato, pentafluorothio, or

B) a group G, wherein G is an unsubstituted or substituted; unsaturated, partially saturated, or saturated; monocyclic, bicyclic, tricyclic, or fused; carbocyclic or heterocyclic ring system wherein;

20

- 1) when the ring system contains a 3 or 4 membered heterocyclic ring, the heterocyclic ring contains 1 heteroatom;
- 2) when the ring system contains a 5, or more membered heterocyclic ring or a polycyclic heterocyclic ring, the

heterocyclic or polycyclic heterocyclic ring contains from 1 to 4 heteroatoms;

3) each heteroatom is independently selected from N, O, and S;

4) the number of substituents is from 0 to 5 and each

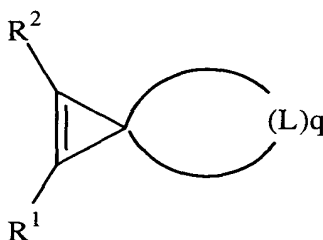
5 substituent is independently selected from X

b) the total number of non-hydrogen atoms in each compound is 50 or less;

its enantiomers, stereoisomers, salts, and mixtures thereof;

or a composition thereof.

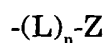
- 10 2. A method of inhibiting an ethylene response in a plant, comprising contacting the plant with an effective ethylene response-inhibiting amount of a compound of formula III:



III

15 wherein:

a) each R<sup>1</sup> and R<sup>2</sup> is independently a group of the formula:



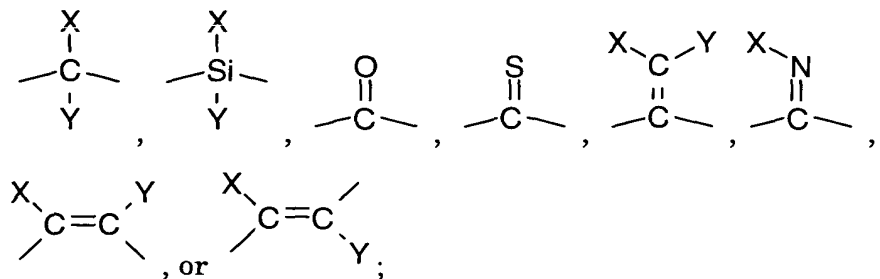
wherein:

i) n is an integer from 0 to 12 and q is an integer from 2 to 11;

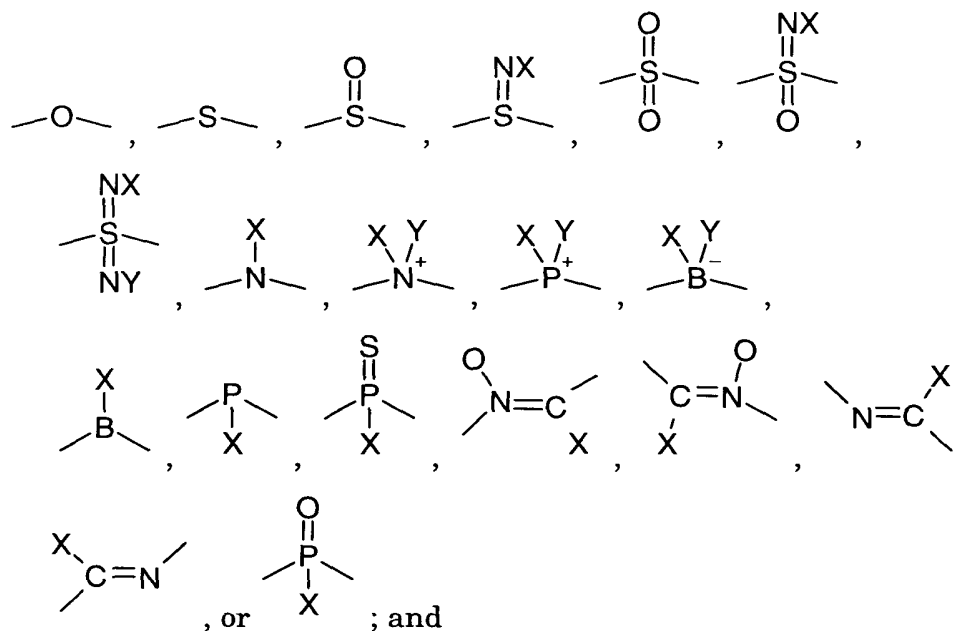
20 ii) each L is independently selected from a member of group D, E, or J

wherein:

D is of the formula:

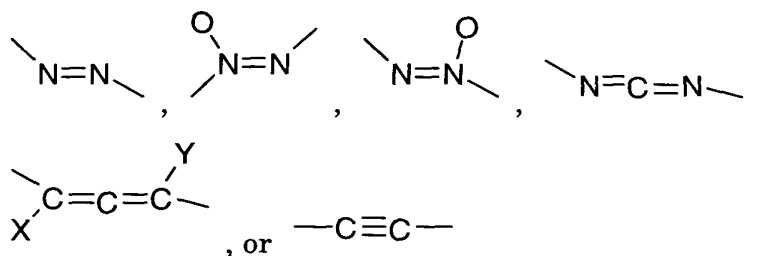


E is of the formula:



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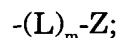
J is of the formula:



wherein:

10

A) each X and Y is independently a group of the formula:



and

B) m is an integer from 0 to 8; and

C) no more than two E groups are adjacent to each other and no

15

J groups are adjacent to each other; and

iii) each Z is independently selected from:

A) hydrogen, halo, cyano, nitro, nitroso, azido, chlorate, bromate, iodate, isocyanato, isocyanido, isothiocyanato, pentafluorothio, or

B) a group G, wherein G is an unsubstituted or substituted; unsaturated, partially saturated, or saturated; monocyclic, bicyclic, tricyclic, or fused; carbocyclic or heterocyclic ring system wherein;

- 1) when the ring system contains a 3 or 4 membered heterocyclic ring, the heterocyclic ring contains 1 heteroatom;
- 2) when the ring system contains a 5, or more membered heterocyclic ring or a polycyclic heterocyclic ring, the heterocyclic or polycyclic heterocyclic ring contains from 1 to 4 heteroatoms;
- 3) each heteroatom is independently selected from N, O, and S;
- 4) the number of substituents is from 0 to 5 and each substituent is independently selected from X

b) the total number of non-hydrogen atoms in each compound is 50 or less;

its enantiomers, stereoisomers, salts, and mixtures thereof; or a composition thereof.

3. The method of claim 1 or claim 2, wherein the ethylene response is one or more of ripening or senescence of flowers, fruits, and vegetables; abscission of foliage, flowers, and fruit; the shortening of life of ornamental plants, cut flowers, shrubbery, seeds, or dormant seedlings; inhibition of growth; stimulation of growth; auxin activity; inhibition of terminal growth; control of apical dominance; increase in branching; increase in tillering; changing the morphology of plants, modifying the susceptibility to plant pathogens such as fungi; changing bio-chemical compositions; inducing pest resistance; abortion or inhibition of flowering or seed development; lodging effects; stimulation of seed germination; breaking of dormancy; hormone effects; and epinasty effects.
4. The method of claim 1, wherein the compound is of formula I and one of  $R^3$  and  $R^4$  is hydrogen.

5. The method of claim 1, wherein the compound is of formula II and one of R<sup>2</sup> and R<sup>3</sup> is hydrogen.
6. The method of claim 2, wherein one of R<sup>1</sup> and R<sup>2</sup> is hydrogen.
7. The method of claim 1 or claim 2, wherein n is from 0 to 8.
- 5 8. The method of claim 1 or claim 2, wherein m is from 0 to 4.
9. The method of claim 1, wherein p is from 4 to 7.
10. The method of claim 2, wherein q is from 4 to 6.
11. The method of claim 1 or claim 2, wherein:
  - a) each D is independently -CXY-, -SiXY-, -CO-, or -CS-;
  - 10 b) each E is independently -O-, -S-, -NX-, or -SO<sub>2</sub>-;
  - c) each X and Y is independently H, halo, OH, SH, -C(O)(C<sub>1</sub>-C<sub>4</sub>)alkyl -, -C(O)O(C<sub>1</sub>-C<sub>4</sub>)alkyl -, -O-(C<sub>1</sub>-C<sub>4</sub>)alkyl, -S-(C<sub>1</sub>-C<sub>4</sub>)alkyl, or substituted or unsubstituted (C<sub>1</sub>-C<sub>4</sub>)alkyl; and
  - d) each Z is independently H, halo, or G.
- 15 12. The method of claim 1 or claim 2, wherein R<sup>2</sup>, R<sup>3</sup>, and R<sup>4</sup>, when present, are each independently selected from hydrogen and (C<sub>1</sub>-C<sub>4</sub>)alkyl.